

The color of the vertex is usually white or gray, but it is sometimes ochreous, and in one specimen it is even orange; the front almost always varies in the same manner, but in a less degree.

No two specimens have their wings of exactly the same shape, but in general the variation is only slight; in some females, however, the elongation of both pairs is quite perceptible, and in such specimens the costa is more strongly arched than usual, and on the posterior wings the costal angle is less, and the anal angle greater; in one well marked insect of this group the posterior wings are shorter and more triangular than in others.

I have described the principal types of variation, and have given a few examples under each; it would be quite impossible to characterize them all within the limits of this paper. I know of no Geometrid in which there is so much variability in characters which are usually in this family constant and of specific value.

H. K. Morrison.

BIBLIOGRAPHICAL RECORD.

Authors and Societies are requested to forward their works to the Editor at the earliest date possible. We ask our readers to inform us of the publication especially of those works which are not generally consulted by entomologists.

B. Pickman Mann.

(Continued from page 64.)

[Measures of defence against insects not being a part of the science of entomology, although of small value in its absence, they will only be noticed hereafter, in this Record, when given in connection with some matter of entomological import.]

In addition to articles on Insects, we shall hereafter record articles on all other Arthropoda, except Crustacea.]

* 173. The **Proc. Bost. Soc. Nat. Hist.** [see Rec., Nos. 1-10], vol. xvi, from p. 209, contain the following, and Nos. 174-177.

a. On the disposition made of some of Abbot's paintings of insects (by S. H. Scudder), p. 295 (see also, vol. xvii, p. 10-11). b. On the capture of *Argynnis polaris* by the Polar Expedition (by S. H. Scudder), p. 365.

* 174. A. R. GROTE. Descriptions and Notes on the Noctuidæ. p. 239-245.

Enumerates 15 species; describes 10 (9 ? new) species.

* 175. E. P. AUSTIN and J. L. LeCONTE. Catalogue of the Coleoptera of Mt. Washington, N. H., with Descriptions of New Species. p. 265-276.

Enumerates 232 species, with notes; describes 11 (9 new) species; synoptical table of species of Cephaloon.

* 176. H. A. HAGEN. On Amber in North America. p. 296-301.—Also separate. 8vo. pg. 7.

Localities and insect-contents of amber. [The separate contains some matter not in the original. In a communication to the Club, Dr. Hagen said it seems from the description that the supposed "nest of an insect" is a group of galls attached to a twig. *B. P. M.*]

* 177. H. A. HAGEN. The Odonate Fauna of Georgia, from Original Drawings now in possession of Dr. J. LeConte, and in the British Museum. p. 349-365.

Enumerates 66 species, with notes. Describes 5 (2 new) species.

* 178. The **Proc. Bost. Soc. Nat. Hist.**, vol. xvii, as far as p. 256, contain the following, and Nos. 179-182.

a. Condition of the Entomological Department (by Prof. Alpheus Hyatt), p. 7. b. Notice of Prof. Wyman's "Notes on the Cells of the Bee" (1866) (by Prof. Asa Gray), p. 117-118. c. The four types of nests made by "Tarantulas" characterized (by S. H. Scudder), p. 130.

* 179. S. H. SCUDDER. Notes on the Natural History of Portions of Dakota and Montana Territories, being the Substance of a Report to the Secretary of War on the Collections made by the North Pacific Railroad Expedition of 1873, Gen. D. S. Stanley, Commander. By J. A. Allen, Naturalist of the Expedition. VII. Report on the Butterflies collected by Mr. J. A. Allen on the Yellowstone Expedition of 1873. p. 86-91.

Enumerates 23 species, with notes and localities; describes *Agriades Minnehaha*, n. sp.

* 180. H. K. MORRISON. Descriptions of New Noctuidæ. p. 131-166.

Describes 4 (Pteroseia, Thaumatopsis = 2 new) genera and 58 (56 new) species, including 23 (22 new) *Agrotis*; enumerates 65 species of 24 genera.

* 181. S. H. SCUDDER. Remarks on the Old Genus *Callidryas*. p. 206-209.

Division of the genus into groups; localities and varieties of the five U. S. species: *Phoebis Agarithe*, *Callidryas Eubule*, *C. Sennae*, *C. Philea*, *Metura Cipris*; description of *Aphrissa Buleri* n. sp. from Tehuantepec.

* 182. H. K. MORRISON. List of a Collection of Texan Noctuidæ, with Descriptions of the New Species. p. 209-221.

Enumerates 55 species of 30 genera; describes one new genus (Tornos) and 15 (10 new) species.

Litt. Liv. Age [see Rec., Nos. 11, 12], vols. cxxi-cxxiv (ser. 5, vols. vi-ix), contains Nos. 183 to 186.

* 183. W. C. (*Chambers' Journal*.) Explorations of a Naturalist. cxxi, p. 188-191.

Notice of Belt's *The Naturalist in Nicaragua* [see Rec., No. 72]; habits and food of foraging, leaf-cutting and other ants; means against leaf-cutting ants.

* 184. *The Spectator*. Sir John Lubbock on "the Little Busy Bee". cxxi, p. 379-381.

Refutation of traditional notions about the mental qualities of honey-bees; character of instinct.

* 185. A BUSY OLD MAID. (*The Spectator*.) The Busy Bee. cxxi, p. 381-382.

Are the instincts of worker honey-bees inherited?

* 186. *Chambers' Journal*. Colour in Animals. cxxii, p. 57-60.

Variety, cause and conditions of colors in insects and other animals.

* 187. **The American Journal of Science and Arts** [see Rec., No. 13], vol. cvii (ser. 3, vol. vii), from p. 167, and vol. cviii (3, viii), contains the following, and Nos. 188, 189.

Insects found by the "Polaris" Expedition, cvii, p. 528.

* 188. O. HARGER. Notice of a new Fossil Spider from the Coal Measures of Illinois. cvii, p. 219-223, fig.

Description and figure of *Arthrolycosa antiqua*, a new species and genus, composing the new family Arthrolycosidae; its characters and affinities.

* 189. ALFRED M. MAYER. Experiments on the supposed Auditory Apparatus of the *Culex* Mosquito. cviii, p. 89-103.

Reasons to expect that "those articulates which are sensitive to sound, and also emit characteristic sounds, will prove to possess receptors of vibrations external to the general surface of their bodies, and that the proportions and situations of these organs will comport with the physical conditions necessary for them to receive and transmit vibrations to the interior ganglia"; situation of the organs of hearing in Orthoptera; functions of antennæ and palpi; adaptation of the fibrils of the antennæ of the male mosquito to the perception of the various notes sounded by the female, and to the determination of the direction from which the sounds proceed; conformity of anatomical facts to the hypothesis that the antennal fibrils are the auditory organs of the mosquito.